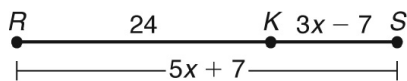


Geometry Chapter 3 Practice Test**Multiple Choice***Identify the choice that best completes the statement or answers the question.*

- _____ 1. Which statement is NOT true?
- A Parallel lines do not intersect.
 - B A segment has exactly two endpoints.
 - C Two planes that do not intersect are always skew.
 - D A ray has exactly one endpoint.

- _____ 2. The midpoint of \overline{XY} is Z . If $XY = 3n$ and $XZ = n + 15$, what is YZ ?
- | | |
|------|------|
| F 18 | H 45 |
| G 36 | J 90 |

- _____ 3. What is RS ?



- | | |
|------|------|
| A 5 | C 56 |
| B 32 | D 70 |

- _____ 4. The midpoint of \overline{VW} is $P(4, -3)$. If the coordinates of W are $(0, 15)$, what are the coordinates of V ?
- | | |
|---------------|--------------|
| F $(8, -21)$ | H $(4, -33)$ |
| G $(-8, -21)$ | J $(2, 6)$ |

- _____ 5. Which property justifies the statement “If $2y = n$ and $n = -3$, then $2y = -3$ ”?
- A Transitive Property of Equality
 - B Reflexive Property of Equality
 - C Symmetric Property of Equality
 - D Multiplication Property of Equality

Name: _____

ID: A

Matching

Match each vocabulary term with its definition.

- A parallel lines
- B parallel planes
- C perpendicular lines
- D skew lines
- E perpendicular bisector
- F perpendicular planes
- G angle bisector

_____ 1. lines that are not coplanar

_____ 2. planes that do not intersect

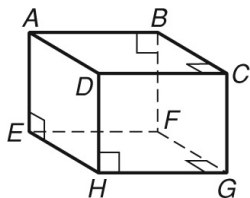
_____ 3. lines in the same plane that do not intersect

_____ 4. a line perpendicular to a segment at the segment's midpoint

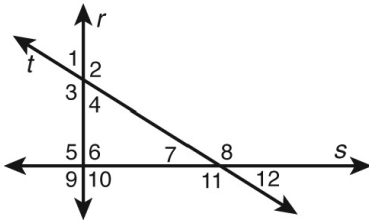
_____ 5. lines that intersect at 90° angles

Short Answer

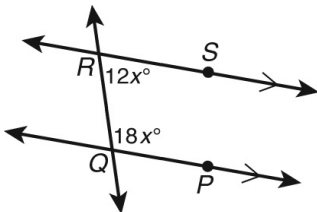
1. Identify a pair of skew segments.



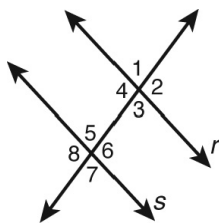
2. Write *True* or *False*. Perpendicular lines cannot be skew lines.
3. How many total pairs of both alternate exterior and alternate interior angles are formed by a transversal that intersects two coplanar lines at two different points?
4. Given: $\angle 8$ and $\angle 6$ are corresponding angles. Identify the transversal.



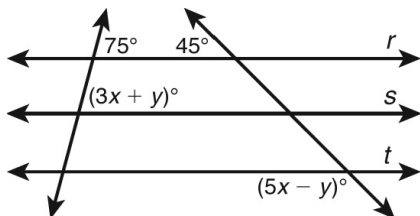
5. If parallel lines are intersected by a transversal that is not perpendicular to them, how many pairs of nonadjacent supplementary angles are formed?
6. What one word completes the following sentence? _____ angles formed by a transversal of parallel lines are congruent and all the _____ angles are supplementary to all the obtuse angles.
7. Find the measure of $\angle QRS$ and state the postulate or theorem that justifies your answer.



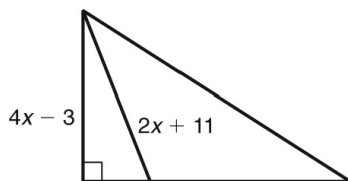
8. If $\angle 1 \cong \angle 6$ and $m\angle 1 \neq 90^\circ$, is $r \parallel s$?



9. Which values for x and y make lines r , s , and t parallel?

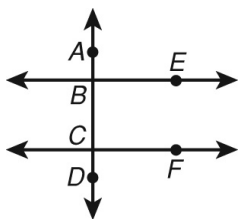


10. If two parallel lines and a transversal form angles that are all congruent, describe the relationship between the transversal and each of the parallel lines.
11. Write and solve an inequality for x .



Name: _____

ID: A



12.

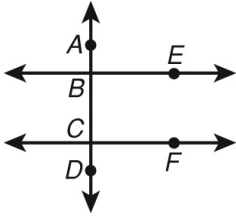
Given: $\overline{AD} \perp \overline{BE}$ and $\angle BCF \cong \angle FCD$.

Prove: $\overline{BE} \parallel \overline{CF}$

Proof:

Statements	Reasons
1. $\overline{AD} \perp \overline{BE}$	1. Given
2. $\angle BCF \cong \angle FCD$	2. Given
3. $\overline{CF} \perp \overline{AD}$	3. ____?
4. $\overline{BE} \parallel \overline{CF}$	4. ____?

State the justification for Step 3.



13.

Given: $\overline{AD} \perp \overline{BE}$ and $\angle BCF \cong \angle FCD$.

Prove: $\overline{BE} \parallel \overline{CF}$

Proof:

Statements	Reasons
1. $\overline{AD} \perp \overline{BE}$	1. Given
2. $\angle BCF \cong \angle FCD$	2. Given
3. $\overline{CF} \perp \overline{AD}$	3. ____?
4. $\overline{BE} \parallel \overline{CF}$	4. ____?

State the justification for Step 4.

14. If the slope of a line is 0, which type of line is it and what is true about the y -coordinates of all points on the line?
15. Line r passes through $(4, 4)$ and $(6, 2)$. Line s passes through $(1, -1)$ and $(4, y)$. If line s is perpendicular to line r , what is y ?
16. Line r passes through $(1, 1)$ and $(5, 7)$. Line s passes through $(4, -2)$ and $(x, 3)$. If line r is parallel to line s , what is x ?

Name: _____

ID: A

17. Write *True* or *False*. All horizontal lines are perpendicular to all vertical lines, so the product of the slope of a horizontal line and the slope of a vertical line is -1 .

18. Write *True* or *False*. Multiplying both sides of the equation for a line by the same nonzero number will produce an equation for a line that coincides with the original line.

19. Write the equation of the line that has y -intercept 4 and is parallel to $y = -2$.

20. Write an equation in slope-intercept form for the line that passes through (6, 6) and is perpendicular to $-2x + 3y = -6$.